Transgender Health in Endocrinology: Current Status of Endocrinology Fellowship Programs and Practicing Clinicians

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Context: The transgender population continues to face challenges in accessing appropriate health care. Adequate training of endocrinologists in this area is a priority.

Objectives: Assess the status of transgender health care education in US endocrinology fellowship training programs and assess knowledge and practice of transgender health among practicing US endocrinologists.

Design: Mayo Clinic and the Endocrine Society developed and administered a Web-based anonymous survey to 104 endocrinology fellowship program directors (PDs; members of the Association of Program Directors in Endocrinology, Diabetes and Metabolism) and 6992 US medical doctor members of Endocrine Society.

Results: There were 54 total responses from 104 PDs (51.9%). Thirty-five of these 54 programs (72.2%) provide teaching on transgender health topics; however, 93.8% respondents indicated that fellowship training in this area is important. Barriers to provision of education included lack of faculty interest or experience. The most desired strategies to increase transgender-specific content included online training modules for trainees and faculty. Of 411 practicing clinician responders, almost 80% have treated a transgender patient, but 80.6% have never received training on care of transgender patients. Clinicians were very or somewhat confident in terms of definitions (77.1%), taking a history (63.3%), and prescribing hormones (64.8%); however, low confidence was reported outside of the hormonal realm. The most requested methods of education included online training modules and presentation of transgender topics at meetings.

Conclusions: Confidence and competence in transgender health needs to increase among endocrinologists. Strategies include the development of online training modules, expansion of formal transgender curricula in fellowship programs, and presentations at national and international meetings. **(*J Clin Endocrinol Metab* 102: 1286–1290, 2017)**

The social awareness and acceptance of transgender individuals has increased dramatically in the past decade. Despite this, the health care profession continues to face challenges in providing optimal care for this population. Lambda Legal reports 70% of transgender individuals have suffered some form of maltreatment at the hands of medical providers, including harassment and violence (1). Suicide attempts among transgender individuals are also extraordinarily high, up to 60% in those who reported a health care provider has refused to treat them (2). Barriers to adequate care of this population include little or no formal training in addressing

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Abbreviations: MD, medical doctor; PD, program director.

the needs of these patients (3–5). There is a substantial paucity of transgender education in medical school and residency programs. In 2015, White *et al.* published a study looking at US and Canadian medical students' preparedness and comfort with lesbian, gay, bisexual, and transgender care. The majority (67.3%) evaluated their lesbian, gay, bisexual, and transgender curriculum as "fair" or worse, and felt there was room for improvement (6). Data provided by 6 Canadian medical schools revealed that large differences exist in content, curricular structure, and time spent on transgender health and that although almost all student responders agreed that transgender issues are important and should be addressed by physicians, fewer than 10% perceived that they possessed adequate knowledge to provide such care (7).

The importance that residents place on transgender surgical training appears to vary according to gender, geographical location, and prior exposure to transgender patient care through direct patient interaction (8). Confidence or comfort level in providing care to transgender patients has been reported to be low among practicing gynecologists, general pediatricians, and pediatric endocrinologists (9, 10). Only one survey has been published on comfort in transgender health care in endocrinology. An anonymous survey was administered to 80 conference attendees that included endocrinologists, trainees, and nurse practitioners/physician assistants (3); of these, 63% were willing to provide care for transgender individuals, but only 41% described themselves as "very" or "somewhat" competent to provide transgender care.

To date, there has not been an evaluation of the current education status of our endocrinology fellows in transgender care or the status of knowledge and practice in transgender care of practicing clinicians with an interest in endocrinology.

Materials and Methods

Mayo Clinic and the Endocrine Society developed a Web-based anonymous survey that was sent to 104 endocrinology fellowship program directors (PDs) and 6992 US medical doctors (MDs) and MD/PhD members of Endocrine Society, the majority of whom were adult endocrinologists, with approximately 8% specializing in pediatric endocrinology. The survey content, designed by an interprofessional team of experts in transgender care and postgraduate medical education, was informed by discussion and review of the literature. The survey was considered exempt by Mayo Clinic's Intuitional Review Board. The survey comprised two parts: the first 12 questions were directed to PDs only (members of the Association of Program Directors in Endocrinology, Diabetes and Metabolism), and aimed to assess the current status of transgender health care education in US endocrinology fellowship training programs. The remaining 18 questions were answered by US clinicians in practice with a current membership of the Endocrine Society. This portion of the survey was designed to address knowledge and practice of transgender health among practicing clinicians with an interest in endocrinology. The survey was distributed to a diverse group with respect to geographical location and institution type. The questions were designed using a 5-point Likert scale, and each question was analyzed independently. The survey was distributed electronically via e-mail from the Endocrine Society, with two additional reminder e-mails approximately 2 weeks apart. No incentives were provided.

Results

Table 1 displays general characteristics of responders.

PDs

At the time of the survey, 104 PDs were members of the Association of Program Directors in Endocrinology, Diabetes and Metabolism. There were 54 responses from 104 programs (51.9%). Thirty-five of 54 programs (72.2%) provided dedicated teaching on transgender health topics. From a geographical standpoint, 37% of these programs were in the northeast, 32% in the southeast, 20% in the midwest, 11% in the southwest, and 0% in the northwest. Forty-five of 48 (93.8%) programs indicated that fellowship training in transgender endocrinology is important. Current teaching methods, hours of education, faculty development, and clinical years of fellowship are described in Table 2. Endocrine faculty provided most of the education (35 of 36 responders, 97.2%). Of 35 PDs who responded on program content, all provided education on principles of hormone therapy in transgender patients; however, only 22 programs (62.8%) provided content on comprehensive transgender-orientated sexual and social history taking and 14 programs (40%) provided content on systemic physical examination. Thirteen programs (37.1%) provided training on psychosocial and legal issues, 15 programs (42.9%) on organ-specific screening guidelines, and only 10 (28.6%) on necessary requirements for gender confirmation surgery.

Table 1. General Demographics of Survey Responders

General Demographics	%
Academic with trainees	52.8
Academic without trainees	4.2
Private practice	43
Urban	62.9
Suburban	32.6
Rural	4.5
Northeast	25.5
Southeast	21.5
Northwest	8.3
Southwest	19.8
Midwest	24.9

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Table 2. Demographics of US Endocrinology Fellowship Programs, According to PD responses

PD Demographics	%
Teaching methods (33 responders from 39 programs that provide teaching)	
Direct patient care	91.7
Lectures	80.6
Small group discussions	19.4
Simulation	0
Online modules/webinars	2.8
Other (elective)	5.6
Hours of education per year (36 responders from 39 programs that provide teaching)	
<2	33.3
2–5	38.9
>5	27.8
Faculty development provided (48 responders)	
Yes	12.5
No	87.5
Clinical years in endocrinology fellowship	
1	12.8
2	68
3	14.9
Other	4.3

Table 3. Demographics of Clinicians in Practice

Clinical Practice Demographics	%
Number of transgender patients/y (309 responders)	
<5	55
5–10	18.8
≥11	26.2
Years treating transgender patients (307 responders)	
<5	45
5–10	23.8
≥11	31.2
Dedicated training on care of transgender patients (382 responders)	
Yes	19.4
No	80.6
Access to dedicated transgender clinic (380 responders)	
Yes	25.5
No	74.5
Awareness of transgender health clinical guidelines (378 responders)	
Yes	91.3
No	8.7
Years in clinical practice (377 responders)	
≤5	23.3
6–10	16.5
11–20	18.6
>20	41.6

Perceived barriers to provision of education for 42 responders included lack of faculty interest or experience (59.5%), lack of training resources (47.6%), and lack of funding (40.5%). The most desired strategies to increase transgender-specific content from 46 responders included online training modules for trainees (91.3%) and faculty (71.7%), lectures from visiting professors (71.7%), and attendance at meetings with transgender topics (63%).

Practicing clinicians

The survey was sent to 6992 US MD and MD/PhD members of the Endocrine Society. There were 411 total responders. Table 3 includes details describing transgender patients treated per year, years of treating transgender patients, and dedicated training. Of 411 responders, 79.8% have treated a transgender patient in their career (55% more than five patients per year), but of 382 responders, 80.6% have never received training on care of a transgender patient. Of those who received training, 58% reported education during endocrinology fellowship and 52.7% at local, national, or international meetings. Very little education occurred during medical school (4%) and internal medicine residency (6.7%). Eighteen percent received training online, 30% attending lectures, 26% through continuing medical education activities, and 20% indicated "other," which included self-directed learning, experience in transgender clinics, and participation in committees or development of guidelines. Clinicians were very or somewhat confident in terms of definitions (77.1%), taking a history (63.3%), and prescribing hormones (64.8%) to transgender patients, but reported low confidence in concepts of gender confirmation surgery (30.8%), organ-specific screening guidelines (42.4%), and psychosocial/legal issues (35.5%). The most requested methods of education included online training modules and presentation of transgender topics at meetings (44.4% and 40.8% of 365 responders, respectively). Of 299 responders, 80.3% of reported that their practices did not have intake forms to declare gender nonconformity. Of 351 responders, 40.1% did not have gender-neutral bathrooms, and of 379 responders, only 40.6% of staff interacting with patients had received cultural competency training.

Discussion

The transgender community has a disproportionate number of individuals who are uninsured, and 19% have been frankly denied care by health care providers (11). However, with insurance coverage expansion, care is becoming more accessible and affordable. With this increase in accessibility, it is anticipated that many patients will be seeking care under endocrinologists.

We report on the current status of transgender health care education in US endocrinology fellowship programs. Although almost three-quarters of endocrinology fellowship programs that responded reported providing some transgender-related education, there is still a gap between provided education and perceived importance of

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such education among PDs. Our survey results suggest that nonhormonal aspects of transgender care are underemphasized in fellowship program curricula. To educate caregivers on providing comprehensive, patient-centered care to transgender persons, curricular content should be broadened and include education regarding other transgender-related health care issues. Because barriers to providing transgender education were identified predominately to be related to a lack of faculty expertise/development and of training resources, development of online training modules may help address this issue. Although topics in transgender health care have become more prominent at national and international meetings, inclusion of a transgender education program specifically targeted to trainees could also help bridge the education gap and provide a cadre of informed caregivers for the future.

Improvement of transgender education in endocrinology fellowship programs should be a priority. We envision a more structured approach to endocrinology fellowship training, with an introductory curriculum in the first year of fellowship aligned to specific competencies, followed by a more advanced curriculum in the second or third year. Currently, the Accreditation Council for Graduate Medical Education does not require endocrinology training programs to include transgender-specific content in its curricula. Inclusion of such criteria in the Accreditation Council for Graduate Medical Education–specific program requirements would be an important step to optimizing content of endocrinology fellowship programs.

We also report on the status of knowledge and practice of transgender health among practicing US clinicians with an interest in endocrinology. A substantial number of survey responders in academic and private practice settings who are treating transgender patients have not received formal training in transgender endocrinology. Our study indicates that physicians in practice have lower confidence in the nonhormonal aspects of transgender care, which is not surprising considering the underrepresentation of such topics in medical school, residency, and endocrinology training programs. In the practice setting, most responders reported that new practice intake forms were not gender-sensitive, and just over one-third reported that allied health staff had received training in communication skills important to transgender care. Because most endocrinologists have seen a transgender patient at some point in their careers, but do not have access to a specific transgender clinic referral, it is important to ensure that the practice environment is sensitive to the needs of transgender patients. Small additions or changes such as availability of gender-neutral bathrooms can strongly affect a transgender patient's comfort and trust in a medical provider. In addition, providing cultural competency training to all medical and paramedical staff that interacts face to face, via phone, or online with transgender patients may increase patient satisfaction (10, 12).

Although this study focused on transgender training in endocrinology fellowship programs, we think it is also important to increase transgender content in medical school and residency programs. Currently in the United States, transgender medical care is provided by primary care physicians, various medical and surgical specialists, and endocrinologists, often in settings that do not include mental health and surgical services, underscoring the benefits of including education early in medical training. Simple interventions such as addition of transgender content to a medical school curriculum may increase students' comfort and willingness to provide health care to transgender patients (13) and increase knowledge regarding gender identity and appropriateness of cross-sex hormone therapy as a treatment of transgender patients (14). Tulane University instituted four educational sessions to preclinical medical students that included didactic lectures (including introduction to transgender health and hormone therapy for transgender patients) and a standardized patient encounter. Following this intervention, the majority of students agreed that they received new information that would be applicable to a working physician (15). Intervention at the residency level has also shown promise with didactics on gender identity and hormone treatment, resulting in increased perceived knowledge to assist with hormonal therapy for female-to-male and male-to-female patients (16). Education directed at providers has also been shown to raise confidence, as seen when the Veterans Administration launched a program of training and case-based teleconsultation for 33 Veterans Administration providers at five clinical sites across the United States (17). In this program, confidence to treat transgender veterans increased from 59% to 83%. Interventions to reach clinicians in both private practice and academic institutions can be a challenge; however, online modules aimed at both providers and practice staff (such as those developed by Association of American Medical Colleges (18) could help bridge this gap.

Strengths of this survey include a wide reach around the United States, with responders from all geographic regions and both academic and private practice settings. This survey looks in-depth at all aspects of transgender-related care from both a training and practice standpoint. Limitations include the poor response rate from practicing clinicians, which may reflect e-mail burden as well as low confidence and/or disinterest in transgender endocrinology. This may lead to selection bias, as those who were more

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likely to respond may have more experience or interest in this field. Future areas of research could include a more in-depth evaluation of pediatric and international trainees and clinicians.

Conclusions

Improved competence and confidence in delivery of transgender health needs to increase, not only in provision of patient care, but also in establishment of practice environments. We propose that provider education on transgender health care topics should start sooner—at the medical school or residency level. Although current endocrinology fellowship program content strongly emphasizes hormone replacement, more multidisciplinary training on transgender health issues is needed at this level of training. Considering faculty expertise is limited in most programs, strategies are needed to educate the current cohort of undertrained endocrinologists and fellows and to ensure competency in transgender health care for future endocrinologists. These include developing online training modules, core curricula and expansion of clinical exposure in training programs, and expanded inclusion of transgender-related topics at national and international meetings. Online education modules could also reach clinicians with little academic exposure outside of their clinical practice. Targets for improved transgender care should also include cultural competency training for all staff interacting with transgender patients.

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